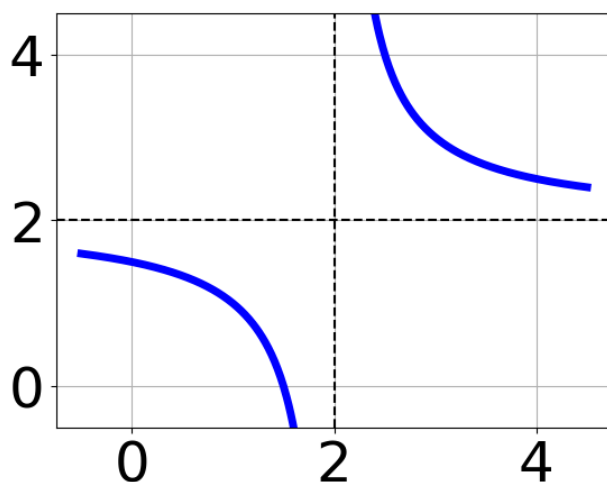


1. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{5}{7x+6} + -7 = \frac{-6}{-28x-24}$$

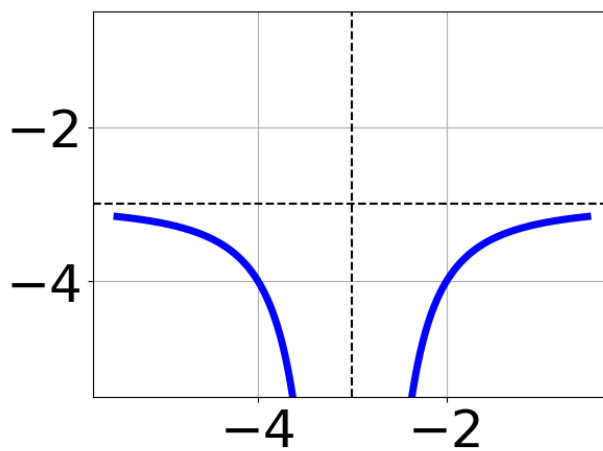
- A.  $x_1 \in [-1.4, -0.7]$  and  $x_2 \in [0.1, 1.6]$   
B. All solutions lead to invalid or complex values in the equation.  
C.  $x_1 \in [-1.4, -0.7]$  and  $x_2 \in [-2, 0.3]$   
D.  $x \in [-1.79, 1.21]$   
E.  $x \in [0.7, 2]$
- 

2. Choose the equation of the function graphed below.



- A.  $f(x) = \frac{1}{x-2} + 2$   
B.  $f(x) = \frac{1}{(x-2)^2} + 2$   
C.  $f(x) = \frac{-1}{x+2} + 2$   
D.  $f(x) = \frac{-1}{(x+2)^2} + 2$   
E. None of the above

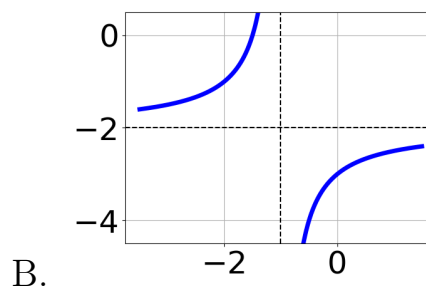
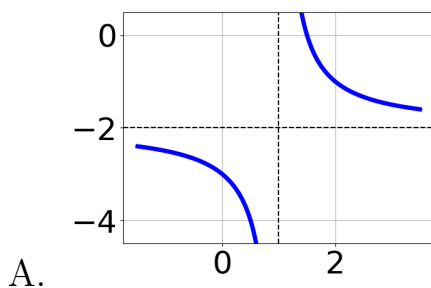
3. Choose the equation of the function graphed below.

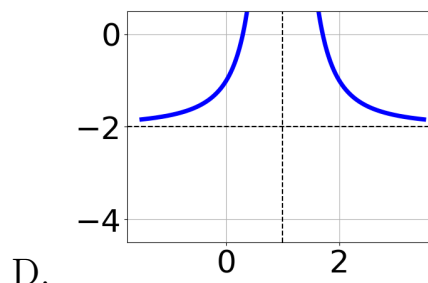
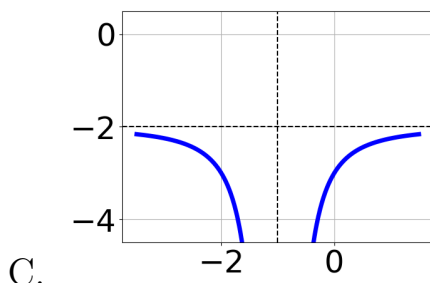


- A.  $f(x) = \frac{-1}{x+3} - 3$
- B.  $f(x) = \frac{1}{(x-3)^2} - 3$
- C.  $f(x) = \frac{1}{x-3} - 3$
- D.  $f(x) = \frac{-1}{(x+3)^2} - 3$
- E. None of the above

4. Choose the graph of the equation below.

$$f(x) = \frac{1}{(x+1)^2} - 2$$





E. None of the above.

5. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-2x}{3x-2} + \frac{-6x^2}{6x^2+11x-10} = \frac{-4}{2x+5}$$

- A. All solutions lead to invalid or complex values in the equation.  
 B.  $x \in [0.65, 0.68]$   
 C.  $x \in [-2.54, -2.47]$   
 D.  $x_1 \in [-2.6, -2.56]$  and  $x_2 \in [1.56, 2.56]$   
 E.  $x_1 \in [0.65, 0.68]$  and  $x_2 \in [-3.5, -1.5]$

6. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-3x}{7x+6} + \frac{-2x^2}{-28x^2-10x+12} = \frac{5}{-4x+2}$$

- A.  $x_1 \in [-0.99, -0.27]$  and  $x_2 \in [2.73, 11.73]$   
 B. All solutions lead to invalid or complex values in the equation.  
 C.  $x \in [0.36, 0.75]$   
 D.  $x \in [4.07, 5.47]$   
 E.  $x_1 \in [-0.99, -0.27]$  and  $x_2 \in [-2.86, 2.14]$

7. Determine the domain of the function below.

$$f(x) = \frac{6}{18x^2 - 6x - 24}$$

- A. All Real numbers except  $x = a$ , where  $a \in [-3, 1]$
- B. All Real numbers except  $x = a$  and  $x = b$ , where  $a \in [-36, -35]$  and  $b \in [12, 13]$
- C. All Real numbers.
- D. All Real numbers except  $x = a$ , where  $a \in [-36, -35]$
- E. All Real numbers except  $x = a$  and  $x = b$ , where  $a \in [-3, 1]$  and  $b \in [0.33, 6.33]$

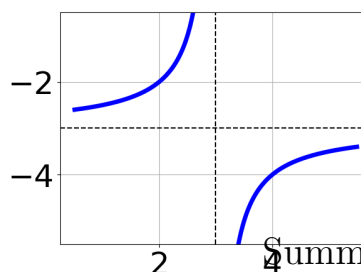
8. Determine the domain of the function below.

$$f(x) = \frac{3}{16x^2 + 8x - 24}$$

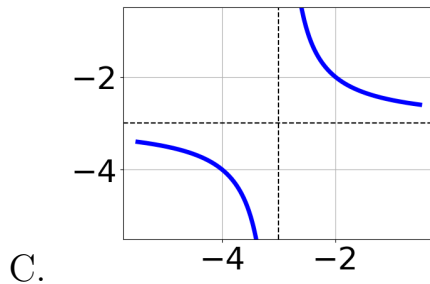
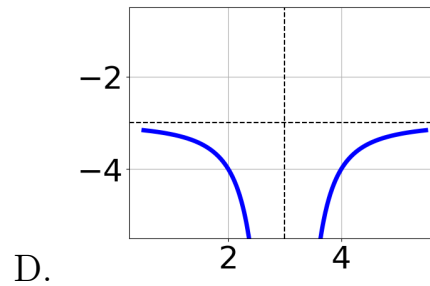
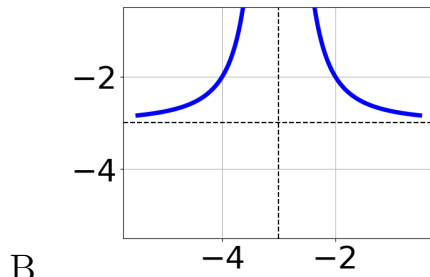
- A. All Real numbers except  $x = a$  and  $x = b$ , where  $a \in [-25.9, -22.9]$  and  $b \in [14.9, 16.3]$
- B. All Real numbers except  $x = a$  and  $x = b$ , where  $a \in [-2.5, -0.7]$  and  $b \in [-0.5, 1.4]$
- C. All Real numbers except  $x = a$ , where  $a \in [-2.5, -0.7]$
- D. All Real numbers except  $x = a$ , where  $a \in [-25.9, -22.9]$
- E. All Real numbers.

9. Choose the graph of the equation below.

$$f(x) = \frac{-1}{x-3} - 3$$



A.



E. None of the above.

10. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{88}{88x + 55} + 1 = \frac{88}{88x + 55}$$

- A. All solutions lead to invalid or complex values in the equation.  
 B.  $x \in [-0.62, 0.38]$   
 C.  $x_1 \in [-1.62, 0.38]$  and  $x_2 \in [-1.62, 0.38]$   
 D.  $x_1 \in [-1.62, 0.38]$  and  $x_2 \in [0.62, 1.62]$   
 E.  $x \in [-0.38, 2.62]$